

Public Health 101 Series



Introduction to Prevention Effectiveness

Instructor name

Title

Organization

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Course Topics

Introduction to Prevention Effectiveness

1. A Public Health Approach
2. What Is Prevention Effectiveness?
3. Prevention Effectiveness Study Design
4. Economic Costs
5. Types of Economic Evaluations



Learning Objectives

After completing this course, you will be able to

- define prevention effectiveness
- describe the key components of prevention effectiveness studies
- identify basic economic evaluation methods used in prevention effectiveness studies
- identify data used in the most common types of economic evaluation methods

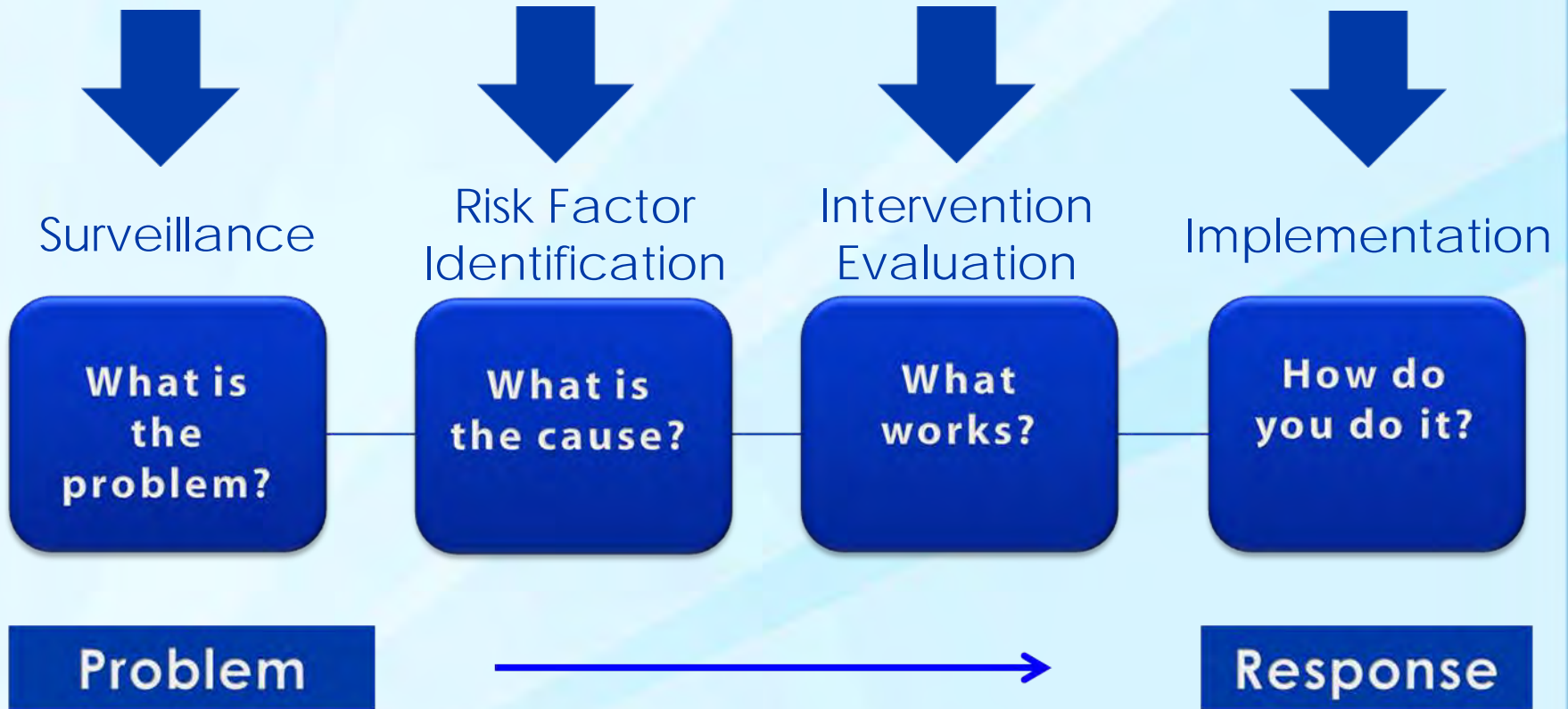


Topic 1

A Public Health Approach



A Public Health Approach



Public Health Core Sciences





Topic 2

What Is Prevention Effectiveness?



Prevention Effectiveness Defined



Prevention effectiveness is the systematic assessment of the impact of public health policies, programs, and practices on health outcomes by determining their effectiveness, safety, and costs.

What Prevention Effectiveness Does

Assesses
the impact
of prevention
policies, programs,
and practices

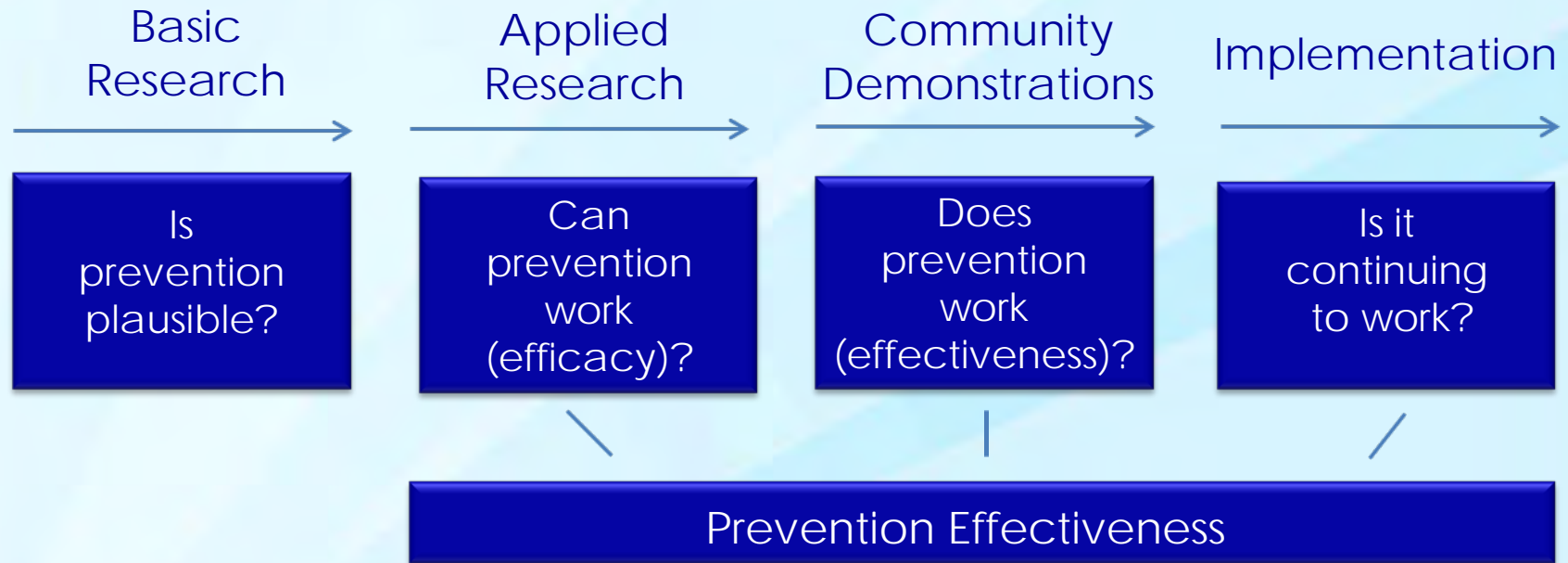
Evaluates
the allocation
of health care
resources

Provides decision
makers
with information
for action

Centers for Disease Control and Prevention (CDC). What is prevention effectiveness? Atlanta, GA: US Department of Health and Human Services, CDC; 2010. <http://www.cdc.gov/PEF/WhatIs.html>.

Haddix AC, Teutsch SM, Corso PS, eds. Prevention effectiveness: a guide to decision analysis and economic evaluation. 2nd ed. Oxford, England: Oxford University Press; 2002: 1.

Prevention Effectiveness in Developing and Implementing Prevention Strategies





Knowledge Check

Prevention effectiveness includes which of the following? (*Select all that apply.*)



A. Examining costs and benefits

B. Providing funding for an intervention



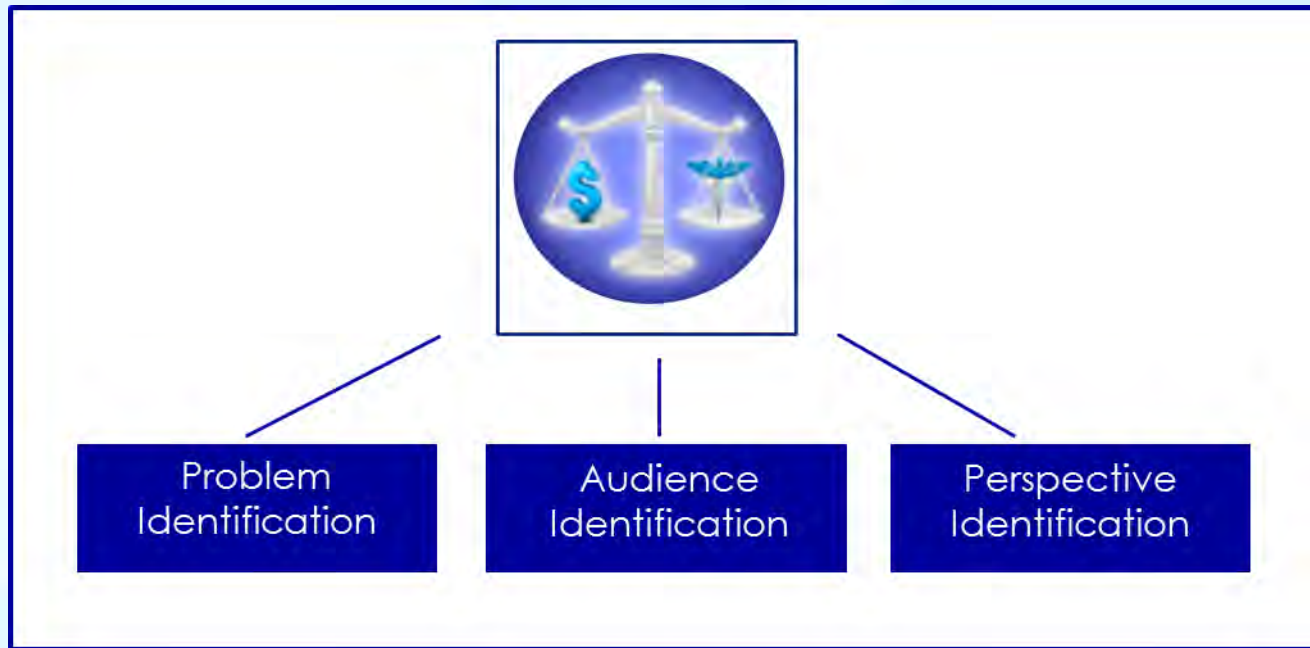
C. Evaluating allocation of health care resources



D. Assessing the impact of different policies, programs, and practices

Topic 3

Prevention Effectiveness Study Design



Prevention Effectiveness Design Approaches

Problem
Identification

Audience
Identification

Perspective
Identification

Problem Identification



Any health-related situation in which a policy solution or management decision can be applied

Haddix AC, Teutsch SM, Corso PS, eds. Prevention effectiveness: a guide to decision analysis and economic evaluation. 2nd ed. Oxford, England: Oxford University Press; 2002.

Centers for Disease Control and Prevention (CDC). Framing an economic evaluation [self-study course]. Atlanta, GA: US Department of Health and Human Services, CDC; [undated]. <http://www.cdc.gov/owcd/eet/framing3/1.html>.

Audience Identification



- Policy and program decision makers
- Health care organizations
- Researchers
- Clinical workers
- The general public
- The media

Haddix AC, Teutsch SM, Corso PS, eds. Prevention effectiveness: a guide to decision analysis and economic evaluation. 2nd ed. Oxford, England: Oxford University Press; 2002.

Centers for Disease Control. A framework for assessing the effectiveness of disease and injury prevention. MMWR Recommend Report 1992;41(No. RR-3).

Perspective Identification

Cost item	Patient	Physician	Payer (e.g., insurance, Medicaid)	Society
Physician time		✓	✓	✓
Medication	✓		✓	✓
Administration		✓	✓	✓
Patient travel	✓			✓
Time off from work	✓			✓



Knowledge Check

Fill in the blanks with the correct answers.

What are the three prevention effectiveness study design approaches?

1. Problem identification
2. Audience identification
3. Perspective identification

Topic 4

Economic Costs



Prevention Effectiveness Costs



- Direct
- Indirect
- Intangible
- Opportunity

Direct Costs



- Medications
- Medical devices
- Computer software and equipment
- Research and development
- Inpatient care

Haddix AC, Teutsch SM, Corso PS, eds. Prevention effectiveness: a guide to decision analysis and economic evaluation. 2nd ed. Oxford, England: Oxford University Press; 2002.

Centers for Disease Control. A framework for assessing the effectiveness of disease and injury prevention. MMWR Recommend Report 1992;41(No. RR-3).

Indirect Costs



- Change in productivity
- Costs of absenteeism
- Foregone leisure time
- Time spent caring for the patient

Haddix AC, Teutsch SM, Corso PS, eds. Prevention effectiveness: a guide to decision analysis and economic evaluation. 2nd ed. Oxford, England: Oxford University Press; 2002.

Centers for Disease Control. A framework for assessing the effectiveness of disease and injury prevention. MMWR Recommend Report 1992;41(No. RR-3).

Intangible Costs



- Physical pain and suffering
- Emotional anxiety
- Social stigmatization

Opportunity Costs



- Monetary and nonmonetary
- Costs and charges



Knowledge Check

Choose the best answer from the choices below.

Prevention effectiveness costs are important to a study because they are often the main quantitative variable for use in

A. prevention

✓ B. analysis

C. identification

D. effectiveness

Topic 5

Types of Economic Evaluations



Types of Economic Evaluations



The choice of economic evaluations used is dependent on

- audience
- study question
- data

Comparison of Economic Evaluation Methods

Method	Data inputs used	Outcome value desired
Cost analysis	Costs	Total program or intervention cost (typically reported as cost per patient or cost per service rendered)
Cost-effectiveness	Net cost of intervention versus intervention effectiveness	Dollars per life saved because of an intervention
Cost-utility	Quality-adjusted life years (QALYs)	Number of life years saved, adjusted to account for loss of quality
Cost-benefit	Money	Net costs or savings of an intervention

Cost Analysis



- Considers program or intervention costs and cost of illness
- Achieves cost minimization for the program under consideration

Cost-Effectiveness Analysis



Compares interventions for the same disease or condition among a common population

Cost-Utility Analysis



- Considers quality-adjusted life years
- Compares interventions for same disease or injury

Cost-Benefit Analysis



- Evaluates multiple options
- Compares different options among sectors



Knowledge Check

Choose the correct answer from the choices below.

Selecting the best economic evaluation method is dependent on the audience, the study question, and the _____.



A. data

B. cost

C. policy

D. application



Knowledge Check

Match the data used with each method of analysis

A. Cost-utility analysis

C. Cost-benefit analysis

B. Cost-effectiveness analysis

D. Cost analysis

A. Cost-utility analysis

1. Quality-adjusted life years

D. Cost analysis

2. Cost

C. Cost-benefit analysis

3. Money

B. Cost-effectiveness analysis

4. Net cost of intervention versus intervention's effectiveness



Course Summary

During this course, you learned to

- define prevention effectiveness
- describe the key components of prevention effectiveness studies
- identify basic economic evaluation methods used in prevention effectiveness studies
- identify data used in the most common types of economic evaluation methods



QUESTIONS?



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- Martin Meltzer, PhD, MS, National Center for Emerging and Zoonotic Infectious Diseases

Resources and Additional Reading

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